

What is claimed is:

1. A polyester comprising at least one pendant and/or terminal group which can be activated with actinic radiation, preparable by reacting

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1. a polyester (i) containing at least one pendant and/or terminal hydroxyl group with at least one carboxylic acid (i) or at least one ester (i) of a carboxylic acid (i) containing at least one bond which can be activated with actinic radiation, or

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2. a polyester (ii) containing at least one pendant and/or terminal carboxylic acid group or at least one pendant and/or terminal carboxylic ester group with at least one hydroxyl-containing compound (ii) containing at least one bond which can be activated with actinic radiation

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in the presence of at least one organism and/or enzyme which catalyzes the transesterification or esterification.

20 2. The polyester as claimed in claim 1, wherein the enzyme is selected from the group of the hydrolases [EC 3.x.x.x].

3. The polyester as claimed in claim 2, wherein the hydrolases [EC 3.x.x.x], are esterases [EC 3.1.x.x] and proteases [EC 3.4.x.x].

25 4. The polyester as claimed in claim 3, wherein the hydrolases are carboxyl ester hydrolases [EC 3.1.1.x].

5. The polyester as claimed in claim 4, wherein the hydrolases are lipases.

30 6. The polyester as claimed in claim 5, wherein the lipases are obtainable from Achromobacter sp., Aspergillus sp., Burkholderia sp., Candida sp., Mucor sp., Penicillium sp., Pseudomonas sp., Rhizopus sp., Thermomyces sp. or porcine pancreas.

7. The polyester as claimed in any of claims 1 to 6, wherein the organisms are naturally occurring or genetically modified microorganisms, single-cell life forms or cells which comprise at least one enzyme which catalyzes the transesterification or esterification.

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8. The polyester as claimed in claim 7, wherein the organisms are selected from the group consisting of Achromobacter sp., Aspergillus sp., Burkholderia sp., Candida sp., Mucor sp., Penicillium sp., Pseudomonas sp., Rhizopus sp., Thermomyces sp., and cells from porcine pancreas.

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9. The polyester as claimed in any of claims 1 to 8, wherein the carboxylic acid (i), the carboxylic ester (i), and the hydroxyl-containing compound (ii) each contain a bond which can be activated with actinic radiation.

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10. The polyester as claimed in any of claims 1 to 9, wherein the bond which can be activated with actinic radiation is a carbon-carbon double bond and/or triple bond.

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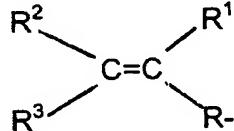
11. The polyester as claimed in claim 10, wherein the bond which can be activated with actinic radiation is a carbon-carbon double bond.

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12. The polyester as claimed in any of claims 1 to 11, wherein the carboxylic acid (i) is a monocarboxylic acid and the hydroxyl-containing compound (ii) contains a primary hydroxyl group.

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13. The polyester as claimed in any of claims 10 to 12, wherein the bond which can be activated with actinic radiation is present in groups of the general formula I:



(I),

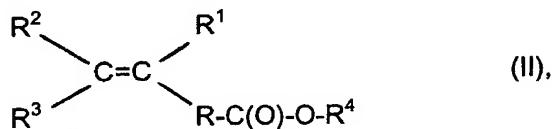
in which the variables are defined as follows:

5 R is a bonding electron pair between the olefinic carbon atom and the carbon atom of a carboxyloxy group and linking organic radical; and

R¹, R²
and R³ are hydrogen atoms or organic radicals;

10 it being possible for at least two of the radicals R, R¹, R², and R³ to be linked cyclically to one another.

14. The polyester as claimed in any of claims 1 to 13, wherein the carboxylic acids (i) or carboxylic esters (i) and the hydroxyl-containing compounds 15 (ii) are selected from the group consisting of compounds of the general formula II:



20 in which the variables R, R¹, R², and R³ are as defined above and the variable R⁴

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1. in the case of the carboxylic acids (i) stands for a hydrogen atom and in the case of the carboxylic esters (i) for a hydroxyl-free, monovalent organic radical and
2. in the case of the hydroxyl-containing compounds (ii) stands for a hydroxyl-containing, monovalent organic radical.

30 15. The polyester as claimed in claim 14, wherein the monovalent organic radical R⁴ comprises or consists of

1. in the case of the carboxylic esters (i) at least one radical selected from the group consisting of hydroxyl-free alkyl, cycloalkyl, and aryl radicals, and
- 5 2. in the case of the hydroxyl-containing compounds (ii) at least one radical selected from the group consisting of hydroxyl-containing alkyl, cycloalkyl, and aryl radicals.
- 10 16. The polyester as claimed in claim 14 or 15, wherein the carboxylic acid (i) is acrylic acid, the carboxylic ester (i) is methyl acrylate, and the hydroxyl-containing compound (ii) is 4-hydroxybutyl acrylate.
- 15 17. A process for preparing a polyester as claimed in any of claims 1 to 18 comprising at least one pendant and/or terminal group which can be activated with actinic radiation, preparable by reacting
- 20 1. a polyester (i) containing at least one pendant and/or terminal hydroxyl group with at least one carboxylic acid (i) or at least one ester (i) of a carboxylic acid (i) containing at least one bond which can be activated with actinic radiation, or
- 25 2. a polyester (ii) containing at least one pendant and/or terminal carboxylic acid group or at least one pendant and/or terminal carboxylic ester group with at least one hydroxyl-containing compound (ii) containing at least one bond which can be activated with actinic radiation

in the presence of a catalyst, the catalyst being at least one enzyme which catalyzes the transesterification or esterification and/or at least one organism which catalyzes the transesterification or esterification.

- 30 18. The process as claimed in claim 17, wherein the water produced during the esterification of the polyesters (i) and (ii) or the resultant hydroxyl-containing compounds is or are removed from the reaction mixture as they are forming or immediately after they have formed.

19. The use of a polyester as claimed in any of claims 1 to 16 or of a polyester prepared by the process as claimed in claim 17 or 18 as or to prepare a composition curable with actinic radiation or both thermally and with actinic radiation (dual cure).
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20. The use as claimed in claim 19, wherein the curable composition is used as a coating material, adhesive or sealing compound for producing a coating, adhesive film or seal or else for producing a molding or self-supporting film.
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